

**COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Northern Virginia Regional Office**

**STATEMENT OF LEGAL AND FACTUAL BASIS FOR A MINOR MODIFICATION TO THE
SOURCE'S CURRENT TITLE V PERMIT**

Glen-Gery Corporation
Capitol Plant - Manassas, Prince William County, Virginia
Permit No. NVRO70244

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Glen-Gery Corporation has applied for a minor modification to its Title V Operating Permit for its Manassas facility. The Department has reviewed the application and has prepared a draft minor modification to Glen-Gery Corporation's Title V Operating Permit.

Engineer/Permit Contact: _____ Date: _____

Air Permit Manager: _____ Date: _____

FACILITY INFORMATION

Permittee

Glen-Gery Corporation
P.O. Box 7001
Wyomissing, PA 19610-6001

Facility

Glen-Gery Capitol Plant
9905 Godwin Drive
Manassas, VA 20108-0953

AIRS ID No. 51-153-0003

SOURCE DESCRIPTION

SIC Code: SIC 3251 - Brick and Structural Clay Tile. The facility manufactures brick products utilizing shale and clay mined on site. The materials are processed through a crusher, grinding mill and screening before being extruded and prepared for firing. The bricks are routed through one of five dryers before entering one of three natural gas-fired kilns.

The facility is a Title V major source of hydrogen fluoride, a hazardous air pollutant. This source is located in an area, which is nonattainment for ozone, and attainment for all remaining criteria pollutants. The facility is a minor source for both the nonattainment and PSD federal new source review programs. The facility has been operation since 1956 and was issued a new source review permit November 24, 2000. Pages 4, 5 and 9 of the November 24, 2000, permit were superseded on January 30, 2001. The November 24, 2002, new source review permit was issued for the construction and operation of a Shapes Natural Gas-fired Dryer and a Shapes Natural Gas-fired Kiln. At the time of the NSR permit, the source's Title V permit had more than three years left in its life span. Therefore, a minor modification to the Title V permit is being drafted.

This statement of basis will address only the conditions that have been added or modified as the result of the new source review permit issued for the Shapes Natural Gas-fired Dryer and the Shapes Natural Gas-fired Kiln.

COMPLIANCE STATUS

The facility is inspected once a year. The facility was last inspected on May 23, 2002 and was determined to be in compliance.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

Emissions units to be operated are listed in the table below. The new source review emissions units (permitted November 24, 2000) are indicated by an asterisk (*).

Emission Units

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
01	Open air fugitives	Raw material storage piles	---	---	---	---	---
02	Open air fugitives	McClanahan Super Black Diamond 24" x 48" Crusher, Model No. 2448 (Mfg. 1979)	300 tons/hr	---	---	---	---
03	Enclosed in Bldg.	Grinding and Screening	55 tons/hr	---	---	---	---
04	04	Sand booth	1 ton/hr	United Air Specialists Dust Hog Model SBD-16-2	F-4	TSP, PM ₁₀	---
05 (K-1)	05 (K-1-1)	Allied Engineering Natural Gas Fired Kiln	16.7 tons/hr	---	---	---	---
06 (K-2)	06 (K-2-1)	Allied Engineering Natural Gas Fired Kiln	16.7 tons/hr	---	---	---	---
*20 (D-5)	07 (D-5)	Shapes Natural Gas Fired Dryer	0.57 tons/hr	Low NOx Burner	---	NO ₂	11/24/00; pages 4,5 & 9 were superceded on 1/30/01
*22 (SK-1)	08 (SK-1)	Shapes Natural Gas Fired Dryer	0.27 tons/hr	Low NOx Burner	---	NO ₂	11/24/00; pages 4,5 & 9 were superceded on 1/30/01

EMISSIONS INVENTORY

A copy of the 2001 annual emissions inventory is attached. Emissions are summarized in the following tables.

Table 1. 2001 Actual Criteria Pollutant Emissions for the Glen-Gery Capitol Plant

	2001 Criteria Pollutant Emission in Tons/Year				
Emission Unit	VOC	CO	SO ₂	PM ₁₀	NO _x
01 - Storage	---	---	---	4.4	---
02 - Crusher	---	---	---	3.3	---
03 - Grinding & Screening	---	---	---	3.0	---
04 - Sandbooth	---	---	---	0.4	---
05 (K-1) - Kiln #1	---	---	---	---	---
06 (K-2) - Kiln #2	0.4	24.9	1.6	0.2	9.1
20 (D-5) - Shapes Dryer	0.01	0.08	---	0.03	0.03
22 (SK-1) - Shapes Kiln	0.01	0.3	---	0.2	0.09
Total	0.4	25.3	1.6	11.5	9.1

Table 2. 2001 Actual Hazardous Air Pollutant Emissions for the Glen-Gery Capitol Plant

Pollutant	2001 Hazardous Air Pollutant Emission in Tons/Yr
Hydrogen Fluoride	13.8
Hydrogen Chloride	4.2

EMISSION UNIT APPLICABLE REQUIREMENTS

Shapes Natural Gas-fired Dryer and Shapes Natural Gas-fired Shuttle Kiln (Emission Units 20 and 22)

Limitations

The following applicable limitations are State BACT requirements from the conditions of the minor NSR permit issued November 24, 2002, (pages 4, 5 and 9 superceded January 30, 2001):

Condition 4, which states that NO_x emissions from the Shapes Dryer and Shuttle Kiln shall be controlled using low NO_x burners.

Condition 5, which states the limits on brick production for the Shapes Dryer and Shuttle Kiln.

Condition 6, which states that the fuel used shall be natural gas for the Shapes Dryer and Shuttle Kiln.

Condition 7, which states the emission limits for the Shapes Dryer and Shuttle Kiln operations. It should be noted that criteria pollutants with a potential to emit of 0.5 tons per year or greater have been listed.

Condition 8, which provides the visible emission limits for the Shapes Dryer and Shuttle Kiln exhausts.

Monitoring and Recordkeeping

The proposed permit establishes a requirement to conduct visible emissions monitoring to ensure compliance with the visible emissions standard, and also as a surrogate for demonstrating compliance with the particulate emissions standards. The visible emission requirements of 9 VAC 5-50-80 apply to the Shapes Dryer and Shuttle Kiln. The periodic monitoring provisions for visible emissions are consolidated in Part V, *Facility-Wide Conditions*, of the proposed permit as visible emissions standards apply to all processes at the Glen-Gery Capitol Plant. A discussion of the monitoring approach is provided later in this document under the topic of facility-wide conditions.

The opacity periodic monitoring requirements serve as a surrogate indicator of compliance with

particulate standards. No other specific particulate monitoring requirements are proposed as the maximum predicted particulate emissions from each process are only a fraction of the allowable particulate limits established by the regulations. It is highly unlikely that the particulate standards will be exceeded during normal operations given the large margin of compliance.

Testing

The proposed permit does not require any testing for the dryer and kiln operations other than the required Method 9 tests in the event that visible emissions are observed. A table of test methods has been included in the permit if testing is performed. The Department and the EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

FACILITY-WIDE CONDITIONS

The permit identifies facility-wide conditions which apply to all operations at the Glen-Gery Capitol Plant. The facility-wide conditions are general requirements contained in the Virginia Administrative Code (VAC) in 9 VAC 5 Chapter 40, Part II, Article 1, *Visible Emissions and Fugitive Dust/Emissions (Rule 4-1)*. These conditions establish requirements to minimize fugitive emissions, and clarify that visible emissions standards apply to all operations at the facility except the Shapes Dryer and Shuttle Kiln. The visible emission requirements of 9 VAC 5-50-80 apply to the Shapes Dryer and Shuttle Kiln.

Monitoring and Recordkeeping

The proposed permit establishes a requirement to conduct visible emissions monitoring to ensure compliance with the visible emissions standard for each significant emissions unit and for plant-wide fugitive sources. The monitoring involves conducting daily Method 22-like visible emissions observations to provide an indication of the presence or absence of visible emissions. The absence of visible emissions clearly demonstrates compliance with the visible emissions standard. The presence of visible emissions will require the permittee to take corrective action to correct any equipment or control devices which are not operating properly. If corrective action does not eliminate the visible emissions, the permittee is required to conduct an opacity test in accordance with EPA Method 9 (CFR 60, Appendix A) to determine if the visible emissions exceed the allowable standard. It is worth noting that the presence of visible emissions does not necessarily correspond to a violation of the standard.

The proposed permit establishes requirements for the permittee to maintain records of production and throughput data for all emission units in support of actual emissions calculations, and to maintain records of all visible emission observations and any Method 9 tests. The records must be maintained on site for the most recent five years.

Testing

The proposed permit does not require any testing to demonstrate compliance with the facility-wide conditions other than the required Method 9 tests in the event that visible emissions are

observed. The Department and EPA have the authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

The proposed permit establishes reporting in accordance with the permit deviation and failure/malfunction reporting requirements of the Virginia Regulations in the event that opacity excursions are observed. The proposed permit also requires the permittee to provide copies of Method 9 test results to the Department.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal Operating Permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions, including those caused by upsets, within one business day.

STATE ONLY APPLICABLE REQUIREMENTS

The following Virginia Administrative Codes have specific requirements only enforceable by the State and have been identified as applicable by the applicant:

9 VAC 5-60-300, et. seq. (formerly 9 VAC 5-50-160 et. seq.), *Toxic Pollutants*. The construction of the Shapes Dryer and Shuttle Kiln is not applicable to 112 (g) because the potential to emit (pte) of what's being constructed is less than 10 tpy for a single HAP or 25 tpy for multiple HAPs.

STREAMLINED REQUIREMENTS

Condition 10 of the new source review permit dated November 24, 2000 (pages 4, 5 and 9 superceded January 30, 2001) has not been included. This condition dealt with initial visible emissions evaluation for the Shapes Dryer and Shuttle Kiln. The initial testing has been completed.

Condition 11 of the new source review permit dated November 24, 2000 (pages 4, 5 and 9 superceded January 30, 2001) has not been included. Condition 11 required initial notifications of the construction, actual start-up and the anticipated date of performance tests of the Shapes Dryer and Shuttle Kiln. These dates have been submitted to the Department.

FUTURE APPLICABLE REQUIREMENTS

The Glen-Gery Plant is a brick manufacturing facility, which is a major source of hazardous air pollutants (hydrogen fluoride). Maximum achievable control technology standards (MACT) for

clay products manufacturing, under 40 CFR Parts 61 and 63 and 9 VAC 5 Chapter 60 are tentatively scheduled for promulgation on February 28, 2003. The facility will likely be subject to those requirements when promulgated. However, this future rule is not an applicable requirement under 40 CFR Part 70 and 9 VAC 5 Chapter 80, Article 1. It is noted for informational purposes.

INAPPLICABLE REQUIREMENTS

40 CFR Part 60, Subpart OOO, *Standards of Performance for Nonmetallic Minerals Processing Plants*, is not an applicable requirement for the Glen-Gery Capitol Plant. The rule establishes particulate and opacity standards for affected units constructed, reconstructed or modified after August 31, 1983. The Glen-Gery Capitol Plant has been in operation since 1956 and no modifications or reconstructions have occurred to subject the facility the NSPS. Therefore, the material processing equipment at the facility is not subject to NSPS Subpart OOO.

40 CFR Part 60, Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage) for which Construction, Reconstruction or Modification Commenced after July 23, 1984*, is not an applicable requirement to Glen-Gery Capitol Plant. The rule establishes standards for VOC emissions from affected storage tanks with a storage capacity equal to or greater than 40 cubic meters. The storage tanks at Glen-Gery Capitol Plant are exempt from the regulation because the storage capacity of each tank is less than 40 cubic meters, (10,567 gallons). Therefore, storage tanks at this facility are not subject to NSPS Subpart Kb.

9 VAC 5 Chapter 40, Part II, Article 37, *Emission Standards for Petroleum Liquid Storage and Transfer Operations*, is not applicable requirement for the facility. The rule establishes standards for volatile organic compound (VOC) emissions associated with petroleum liquid storage and transfer operations. The tanks at the Glen-Gery Capitol Plant are below the exemption thresholds of the rule for size and the monthly gasoline throughput. Therefore, these rules do not apply to the facility.

9 VAC 5 Chapter 40, Part II, Article 14, *Emission Standards for Sand and Gravel Processing Operations and Stone Quarrying and Processing Operations*, is not an applicable requirement for the facility. The rule establishes requirements for stone quarrying operations, and applies to activities including crushers, conveyors, screens, transfer points, discharge points and storage piles. These standards do not apply to sources located in Air Quality Control Region 7 (e.g. Northern Virginia). Requirements for sources in AQCR 7 are established in 9 VAC Chapter 40, Part II, Article 4.

COMPLIANCE PLAN

The Glen-Gery Capitol Plant is currently in compliance with all applicable requirements. No compliance plan was included in the application or in the proposed permit.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110. Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation ¹ (9 VAC_)	Pollutant Emitted (5-80-720 B.)	Rated Capacity (5-80-720 C.)
Quarry	Quarry Operations	5-80-270 B.1	TSP, PM ₁₀	---
Pug Water System	One natural gas-fired boiler	5-80-720 C.2.a	NA	1.68 MMBtu/hr
V	Dryers 1-4 (waste heat from kilns provide heat. No auxiliary burners)	5-80-720 B.2	VOC	---
AST-2	One 1,000 gallon gasoline AST	5-80-720 B.2	VOC	---

¹The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B - Insignificant due to emission levels

9 VAC 5-80-720 C - Insignificant due to size or production rate

CONFIDENTIAL INFORMATION

The Glen-Gery Corporation did not submit a request for confidentiality. Therefore, all portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

This minor permit modification to the source's current Title V permit does not require public participation as per 9 VAC 5-80-210.

ATTACHMENT A
2001 ACTUAL EMISSIONS SUMMARY